

DRAFT

CV-SALTS Responses to Comments - Draft

On May 31, 2018, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution R5-2018-0034 amending the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin (Basin Plans) to incorporate a Central Valley-wide Salt and Nitrate Control Program (collectively the Amendments).

The State Water Resources Control Board (State Water Board) provided interested parties the opportunity to submit written comments on the State Water Board's consideration of approval of the Amendments. This document contains responses to written comments submitted to State Water Board staff during the July 13-August 13, 2018 comment period. Written comments were received by:

County Flood Control & Water Conservation District, Zone 7, and Contra Costa Water District (Jarnail Chahal, Leah Orloff)

1. Buena Vista Coalition, Cawelo Water District Coalition, Kaweah Basin Water Quality Association, Kern River Watershed Coalition Authority, Kings River Watershed Coalition Authority, Tule Basin Water Quality Coalition, Westside Water Quality Coalition (Nicole Bell)
2. California Independent Petroleum Association (Bob Gore)
3. California Rice Commission (Tim Johnson)
4. Central Valley Salinity Coalition (Daniel Cozad and David Cory)
5. City of Sacramento, Sacramento River Source Water Protection Program (Sherill Huun)
6. Dairy Cares (J.P. Cativiela)
7. Leadership Counsel for Justice and Accountability, Community Water Center, Clean Water Fund, and Environmental Law Foundation (Michael Claiborne, Deborah Ores, Jennifer Clary, and Nathaniel Kane)
8. Pacific Coast Federation of Fishermen's Associations and Institute for Fisheries Resources (Noah Oppenheim)
9. Sacramento Regional County Sanitation District (Terrie Mitchell)
10. United States Environmental Protection Agency, Region IX (Janet Hashimoto)
11. Valley Water Management Company (Russell Emerson)

1. ALAMEDA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT, ZONE 7 (ZONE 7) & CONTRA COSTA WATER DISTRICT (CCWD)

Comment letter was received by the State Water Board on August 13, 2018.

ZONE 7, et al. Comment No. 1: The commitment to source water protection should be realized through clear and unambiguous requirements in the BPAs. This includes establishing water quality objectives that are protective of beneficial uses, clarifying responsibilities of waste dischargers, and eliminating the exemptions that undermine efforts to maintain existing salt levels of discharges. Without the guidance of clear water quality objectives, there is no guarantee that the performance-based measures, which are the key controls under the Alternative Salinity Permitting Approach and yet remain undefined in the proposed amended Basin Plan, would provide an enforceable regulatory basis to prevent water degradation from occurring.

RESPONSE: The Amendments demonstrate a commitment to source water protection. Permittees under the Conservative Salinity Permitting Approach will be held to strict, conservative salinity limitations. Permittees under the Alternative Salinity Permitting Approach will need to continue implementing best efforts to control salinity through performance-based measures as determined by the Central Valley Water Board, while funding the larger-scale studies needed to establish long-term solutions to the Central Valley's salinity issues. As noted in the Central Valley Water Board's response to Zone 7 and CCWD Comment #4 (Central Valley Water Board, 2018a, pg. 19-20), salinity management practices can vary considerably between different programs and areas and it was not appropriate to include these details in the language of the Amendments. More appropriately, the Amendments focus on ensuring that salinity discharges are properly controlled and do not significantly increase while long term solutions are evaluated and implemented. The Amendments do not change the salinity standards established through the Bay-Delta Water Quality Control Plan, site specific salinity standards or previously adopted salinity control programs. Moreover, the Amendments do not alter the Central Valley Water Board's obligation to evaluate the potential for water degradation to receiving waters consistent with the State Antidegradation Policy.

ZONE 7, et al. Comment No. 2: The Central Valley Water Board's response that "[t]he proposed Basin Plan Amendments make no changes to the existing water quality objectives" is inconsistent with the proposed BPAs. The proposed BPAs expand the use of these higher "short-term" salinity levels to drought and conservation situations that are beyond the temporary basis defined in Title 22. This is a notable reduction in the protectives afforded by existing water quality objectives. This significant change has the potential to cause water quality degradation, especially during drought periods when clean water supply is limited.

RESPONSE: The Drought and Conservation Policy provides interim salinity limits during specific emergency situations when source water quality can be expected to decrease (e.g., declared state or local droughts or other emergencies that limit water supplies) and/or to account for documented and continuing conservation

practices. The policy does not change any of the Basin Plans' existing water quality objectives for salinity. The interim limits are based both on the short-term secondary Maximum Contaminant Levels identified in Title 22 for short term drinking water supply and historical salt load. The Title 22 limit provides drinking water protection for short term periods. The limits on salt load would be consistent with effective conservation practices where reuse is concentrating but not adding to existing salt in the original volume of water. The Drought and Conservation Policy will guide interim effluent limits as needed under the Variance Policy during Phase 1 of the Salt Control Program and may become generally applicable during future phases based upon review of the overall program. The Amendments provide the Central Valley Water Board with a consistent approach to addressing impacts from climate change and drought and encourage conservation and reuse of limited freshwater supplies. The requirements for the Central Valley Water Board to conduct antidegradation analyses, evaluate downstream impacts and protect water quality remain in place.

ZONE 7, et al. Comment No. 3: The proposed "Recommendations for Implementation to Other Agencies" should be removed. The proposed BPAs not only misinterpret the legal responsibilities of water users, but also impose unreasonable financial responsibilities on the general public by relying upon funding from Federal/State/local agencies to address waste discharge impacts that the proposed BPAs would now allow to occur without regulation or mitigation, which is inconsistent with both the Clean Water Act and the Porter-Cologne Water Quality Control Act (Porter-Cologne).

RESPONSE: As discussed in the Central Valley Water Board's response to Zone 7 and CCWD Comment #3 (Central Valley Water Board, 2018a, pg. 19), this section is consistent with Porter-Cologne's recognition that waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters. Porter-Cologne further states that waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations (Wat. Code § 13000 et seq.) As such, it is appropriate for the Basin Plan to contain recommendations that all users of Central Valley waters participate in finding long-term solutions to reduce the impacts of their actions.

ZONE 7, et al. Comment No. 4: Growth increment should not be a basis for allowing discharges with higher salinity. The Central Valley Water Board's commitment to source water protection is inconsistent with allowing discharges of higher levels of salinity due to a growth increment. Dischargers, especially those whose discharges are already at salinity levels higher than the protective values specified in the Conservative Salinity Permitting Approach, should manage growth without causing additional impacts to water quality. Allowing exemptions due to growth increment is unsustainable, in that it sacrifices precious water resources and downstream beneficial uses to compensate for growth in the upstream area. This is inconsistent with the Central Valley Water Board's promise to maintain salt levels of discharges at the existing levels.

RESPONSE: The Alternative Salinity Permitting Approach gives the Central Valley Water Board discretion to prescribe performance-based limits or triggers with consideration to some appropriate increment of growth. The primary focus of the Alternative Salinity Permitting Approach is to maintain current discharge concentrations for salt or mass loading levels while seeking long-term solutions for salinity in the Central Valley. However, the Final Staff Report recognizes that the state population is expected to increase by more than 13% to over 44 million people by the year 2030. The Amendments do not provide an automatic exemption to dischargers that are impacted by growth, but they do allow the Central Valley Water Board discretion to consider growth on a case-by-case basis. Granting an increase of a salinity limit based on this consideration does not alter requirements for the Central Valley Water Board to conduct antidegradation analyses, evaluate downstream impacts and protect water quality.

ZONE 7, et al. Comment No. 5: Suggests the following language to be incorporated into the State Water Resources Control Board's resolution:

1. The Water Board's understandings of the Basin Plan's requirements and statements are: (a) that the "short-term" salinity Maximum Contaminant level defined in Cal. Code Regs., tit. 22, §64449 is intended to apply only on a temporary basis, pending construction of water treatment facilities or the development of new water sources, and is inappropriate to be applied to drought and conservation conditions; (b) that discharges would be maintained at current salinity levels, and growth increment will not be used as an exemption for discharges with higher salinity; and (c) that region-wide collaborative efforts for salt and nitrate management would not supersede the water quality protection responsibilities of individual parties based on the impacts of their own activities.
2. The Water Board hereby directs the Central Valley Regional Water Quality Control Water Board to review the Salt Control Program and Recommendations for Implementation to Other Agencies portions of the proposed BPAs, and to revise the proposed BPAs as necessary to make them consistent with the Water Board's understandings as described in the immediately preceding paragraph.

RESPONSE: See responses above to ZONE 7, et al. Comments 1-4.

2. BUENA VISTA COALITION, CAWELO WATER DISTRICT COALITION, KAWEAH BASIN WATER QUALITY ASSOCIATION, KERN RIVER WATERSHED COALITION AUTHORITY, KINGS RIVER WATERSHED COALITION AUTHORITY, TULE BAIN WATER QUALITY COALITION, WESTSIDE WATER QUALITY COALITION

Comment letter was received by the State Water Resources Control Board on August 10, 2018, expressing support for the Basin Plan Amendments and strongly encouraging the State Water Resources Control Board to adopt the Basin Plan Amendments as submitted by the Central Valley Regional Water Quality Control Board.

RESPONSE: Support noted.

3. CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION (CIPA)

Comment letter was received by the State Water Resources Control Board on August 8, 2018, expressing support for the Basin Plan Amendments.

RESPONSE: Support noted.

CIPA Comment No. 1: We support utilizing existing data and research. Data harvesting must be efficient and effective. We are pleased to note the addition of SWRCB's USGS RMP and general GSA inputs, as well as other existing databases, as CV-SALTS sources.

RESPONSE: Support noted.

CIPA Comment No. 2: We will work to staff to incorporate CIPA members' data and that of other agencies, such as the Dept. of Conservation. It will also be good to see the Dept. of Conservation added as an agency to be consulted. We will also work to specify and focus any broad data-gathering efforts for the entire Central Valley surface and ground waters.

RESPONSE: Support noted.

CIPA Comment No. 3: We will work with the Water Boards to persuade the Legislature to assist in funding various CV-SALTS projects. This is a public health program and continuing General Fund support is wholly appropriate.

RESPONSE: Support noted.

4. CALIFORNIA RICE COMMISSION (CRC)

Comment letter was received by the State Water Resources Control Board on August 7, 2018, expressing support for the Basin Plan Amendments.

RESPONSE: Support noted.

5. CENTRAL VALLEY SALINITY COALITION (CVSC)

Comment letter was received by the State Water Resources Control Board on August 10, 2018, expressing support for the Basin Plan Amendments.

RESPONSE: Support noted.

6. SACRAMENTO RIVER SOURCE WATER PROTECTION PROGRAM (SRSWPP)

Comment letter was received by the State Water Resources Control Board on August 13, 2018.

SRSWPP Comment No. 1: The focus of our comments remains on the proposed changes affecting the non-salinity Secondary MCLs. We are concerned that some aspects of the BPA related to Secondary MCLs may result in unintended consequences to the quality of the Sacramento River and American River surface water that we use for our municipal drinking water supplies and reduce the level of protection provided by the Secondary MCLs. We appreciate that the Central Valley Water Board staff has worked to address some of our concerns, including coordination with DDW and affirmation of existing policies.

RESPONSE: The proposed amendments to existing provisions in the Basin Plans related to Secondary MCLs and the Implementation Guidelines presented in Appendix G to the Staff Report (Central Valley Water Board, 2018b) serve to provide consistency and clarification to how Secondary MCLs are applied in Central Valley Water Board's WDRs and other orders. The Amendments include a Monitoring and Surveillance Program that requires the future assessment of water quality conditions and trends for Secondary MCLs to ensure that water bodies that provide the MUN use, such as the Sacramento River and the American River, are not adversely impacted as a result of the Amendments.

SRSWPP Comment No 2: We would like to respectfully note that we believe that some of the Central Valley Water Board responses to our comments did not adequately address our concerns.

RESPONSE: The Sacramento River Source Water Protection Program (SRSWPP) provided comments to the Central Valley Water Board on May 7, 2018. The Central Valley Water Board responded to these comments. SRSWPP did not offer a clear explanation why the Central Valley Water Board's prior response to their substantive comments were inadequate.

SRSWPP Comment No. 3: Under Chapter 3, Water Quality Objectives, SRSWPP requests revisions to additional proposed language to ensure that the new language is not misunderstood in the future to apply to all MCLs rather than only secondary MCLs as scoped in the Basin Plan Amendments. Regional Board Response to Comments No. 32 indicated a change in the language but did not provide any clarification on why the new statement would continue to apply to all MCLs.

Resolution R5-2018-0034, Attachment 1, Page 3, Paragraph 1 already uses the term "Secondary MCLs" twice. We request to modify the following sentence: "Some Secondary MCLs may not be appropriate as an untreated surface water objective without filtration or consideration of site-specific factors."

RESPONSE: Paragraph 1 on Page 3 references both Primary and Secondary MCLs for chemical constituents' water quality objectives for surface waters. "Secondary MCLs" mentioned twice is existing basin planning language and

serves to give context to the Title 22 section and table numbers referred. As stated in the Central Valley Water Board's response to SRSWPP Comment #32 (Central Valley Water Board, 2018a, pg. 56-57), the statement is simply a recognition that most surface waters must be filtered in order to meet federal and state treatment requirements. The new statement is not self-implementing and is meant to be read in context of the overall paragraph.

SRSWPP Comment No. 4: Although the Central Valley Board's Response to Comments documents the use of total analysis, the final Basin Plan Amendment language under Chapter 4, Implementation references EPA methods 200.7 and 200.8 for metal analysis, which are methods that can be utilized to report total or dissolved concentrations.

SRSWPP request to specifically require total recoverable analysis after the pre-filtration step under Resolution R5-2018-0034, Attachment 1, Page 82-83. Modify the following language: *"For receiving waters that are not exempt from surface water treatment requirements...metal constituents will then be analyzed for total recoverable concentrations using the acid-soluble procedure described in EPA Approved Methods as appropriate, or other methods for total recoverable concentrations approved by the Central Valley Water Board."*

RESPONSE: The existing language was approved by the Central Valley Water Board and was developed with consultation from the Division of Drinking Water. The additional language specifying "total recoverable concentrations" recommended by SRSWPP is not required since the language already references the use of EPA Approved Methods as appropriate, or other methods approved by the Central Valley Water Board.

SRSWPP Comment No. 5: Turbidity and color are not appropriate to be pre-filtered before analysis under Chapter 4, Implementation. In addition, the inclusion of turbidity and color in the pre-filtering is inconsistent with the December 2017 State Water Board Division of Drinking Water (DDW) Memorandum. The Regional Board's Response to Comments does not address how the analyses of turbidity and color were adequate. The Basin Plan Amendments includes a significant change in the method of determining compliance with objectives for turbidity and color by removing a portion of the contaminant loading through pre-filtering. In addition, it is unclear if the narrative water quality objectives for color and turbidity will continue to be monitored and regulatory compliance determined on raw samples or if pre-filtering will be allowed.

We request to remove color and turbidity under Resolution R5-2018-0034, Attachment 1, Page 82-83. Modify the following language: *"For receiving waters that are not exempt from surface water requirements (i.e. 40 CFR Part 141, Subparts H, P, T & W), compliance with the Secondary Maximum Contaminant Levels for aluminum, copper, iron, manganese, silver and zinc, ~~color and turbidity~~ in Table 64449-A..."*

RESPONSE: The Amendments do not change the existing water quality objectives for turbidity and color. The basin plan language regarding implementation of

Secondary MCLs details the method for initial filtration for aluminum, copper, iron, manganese, silver, zinc, color and turbidity. Filtration removes total suspended solids and residue prior to analyses using “total” methodology. During the development of the Amendments, staff from the Division of Drinking Water indicated that the filtration was appropriate for turbidity and color, along with the metals listed above. The basin plan language provides flexibility for the Central Valley Water Board to support alternative analytical methods to determine compliance when additional scientific information is provided.

SRSWPP Comment No. 6: We do not believe that there is sufficient technical data to support the use of a 1.5 microns pre-filter to approximate drinking water filtration under Chapter 4, Implementation. We instead suggest the use of a 2.0 microns pre-filter as an initial pre-filter step. We reviewed 40 CFR Part 136 that was referenced in a footnote and that the reference is incorrect and that there is no direct reference to a particular particle size to reduce filterable residue or distinguish between TDS and TSS. Under 40 CFR Part 136, three methods were identified but these methods do not provide a specific pore filter size for analyses; however SM 2540 indicates that the pore filter should be less than or equal to 2 microns when filtering solids.

The Basin Plan Amendment language should provide an initial pore filter size for pre-filtration step based on sound science. If the Central Valley Water Board intends to utilize the suspended particle threshold from the TDS/TSS analysis then it should be based on pore filter size state in Standard Method 2540 (SM2540) of 2.0 microns.

We request to revise the pore size under Resolution R5-2018-0034, Attachment 1, Page 82-83 as follows: *“For receiving waters that are not exempt from surface water treatment requirements...will be determined from samples that have been passed through a 1.52.0 micron filter to reduce filterable residue...”*

RESPONSE: SRSWPP states that they reviewed 40 CFR Part 136 and found no direct reference to a particular particle size to reduce filterable residue or distinguish between TDS and TSS.

At the hearing held on May 31, 2018 representatives from SRSWPP cited EPA Method 2540 and recommended that the minimum filter size be revised from 1.5 microns to 2.0 microns. Commenter is correct that, in the introduction to Method 2540, EPA states that a filter with a pore size of "2.0 microns or smaller" should be used. However, the "Apparatus" section of Method 2540 does not specify an exact filter size but, similar to Method 160.1, does name several filters that provide acceptable performance (see Table 1, below). According to the manufacturer's specifications, none of the filters named in Method 2540 has a pore size larger than 1.5 microns and two had pore sizes that were substantially smaller.

Table 1: Pore Size of Filters Identified in EPA Method 2540C

Filter	Pore Size
Whatman Grade 934AH	1.5 micron
Gelman Type A/E	1.0 micron
Millipore Type AP40	0.7 micron
E-D Scientific Specialties Grade 161	1.5 micron
Environmental Express Pro Weigh	1.5 micron

Since the EPA Method allows a wide range of filter sizes, the Central Valley Water Board believed it was important to be more specific in order to assure consistency when evaluating compliance with the Secondary MCLs. To that end, the Central Valley Water Board specified the use of a 1.5 micron filter as it was the largest pore size within the range of named filters that provided acceptable performance. Therefore, the approach approved by the Central Valley Water Board is consistent with commenters' recommendation that the implementation process be based the filter size specified in EPA Method 2540. Requiring permittees to use a 2 micron filter instead of a 1.5 micron filter would exclude all of the filters that EPA specifically identified as acceptable, which would not be consistent with Method 2540.

Commenters statement that they "cannot see any justification for using a filter size less than 2 microns" is inconsistent with their prior testimony that drinking water treatment produces treated water containing particles that range from 1 to 1,000 microns and the 1.5 micron filter falls within this range. Moreover, since federal regulations typically require treated drinking water to have turbidity no greater than 1 NTU, it is reasonable to conclude that a 1.5 micron filter closely approximates the level of filtration needed to comply with EPA's requirements.

Dairy Cares

Comment letter was received by the State Water Resources Control Board on August 13, 2018, expressing support for the Basin Plan Amendments.

RESPONSE: Support noted.

7. LEADERSHIP COUNSEL FOR JUSTICE AND ACCOUNTABILITY (LCJA), ENVIRONMENTAL LAW FOUNDATION, COMMUNITY WATER CENTER, CLEAN WATER FUND

Comment letter was received by the State Water Resources Control Board on August 13, 2018.

The responses to comments are divided into two sections. Section A addresses broader issues recurring in multiple comments in LCJA's letter (general responses). Section B addresses LCJA's individual comments (specific responses).

Section A. GENERAL RESPONSES

LCJA, et al. Comments Summary No. 1: Commenters support the goal to provide drinking water solutions to communities and residents impacted by nitrate exceedances in groundwater but note that the amendments are not strong enough to identify and ensure safe drinking water to all impacted residents. The amendments do not require dischargers to fund or otherwise develop an adequate well testing program. In addition, the requirement that the impacted residents be given an opportunity to participate in the development of drinking water solutions under the Early Action Plan is not sufficient.

RESPONSE: All Early Action Plans require a process to identify impacted residents and an outreach plan to ensure that impacted users are informed of and given the opportunity to participate in the development of proposed solutions. Without these key components, an Early Action Plan will not be approved by the Executive Officer of the Central Valley Water Board. While additional well sampling may be needed in Early Action Plans to fill in data gaps, there are or will be readily available groundwater quality data from a number of existing sources that can be assessed to identify impacted aquifers. For example, dairies regulated by General Order R5-2013-0122 are required to test their domestic and agricultural wells. In addition, coalition members regulated under WDRs for the Irrigated Lands Regulatory Program are required to test their drinking water wells for nitrate. These requirements to monitor drinking water wells will continue in future which will ensure that if there are new impacts to drinking water wells those wells will be identified and replacement water will be provided.

The State Water Board has directed the Central Valley Water Board to amend the Basin Plans to include a requirement that Management Zone Implementation Plans include a residential sampling program that is designed to assist in identifying affected residents within portions of the management zone where nitrate concentrations in the shallow zone may exceed nitrate concentrations of 10 mg/L

and where there are nitrate discharges from regulated sources that may impact groundwater.

Additionally, the Salt and Nitrate Groundwater Monitoring Program (Groundwater Monitoring Program) shall be sufficiently robust to evaluate ambient water quality and trends in groundwater basins in the floor of the Central Valley Region. The Groundwater Monitoring Program must develop a workplan that details the approach to assess ambient water quality conditions and water quality trends for nitrate. This will ensure that there is adequate monitoring to observe water quality changes and provide replacement water if aquifers become impacted.

LCJA, et al. Comments Summary No. 2: Amendments do not clearly require dischargers to mitigate in a timely fashion financial impacts to communities that have already acted to address nitrate exceedances in groundwater through treatment, identification of a more costly water source, or other expenditures. This presents not only a fairness issue, but an incentive to other communities to postpone addressing nitrate contamination in order to take advantage of replacement water or other mitigation provided by dischargers.

RESPONSE: Providing a safe, reliable drinking water supply is the highest priority for the management of nitrate under the Salt and Nitrate Control Program. As such, the Amendments require that the drinking water needs of people who are drinking groundwater that exceeds nitrate standards and who do not otherwise have an interim replacement for safe drinking water are addressed first. While nitrate-impacted communities that have already initiated drinking water solutions are not the primary focus of these initial efforts, it is important that they participate in the subsequent development of any Alternate Compliance Project (ACP) or Management Zone Implementation Plan in their region. Public outreach and the ability for communities such as these to participate in these projects are requirements of the Nitrate Control Program. Communities that have already acted to address nitrate exceedances or obtain replacement water should be commended, but the Water Code cannot require dischargers to provide financial compensation to those communities.

LCJA, et al. Comments Summary No. 3: The requirements for the Management Zones are too flexible. The amendments do not expressly prohibit a management zone from proposing boundaries that exclude users of groundwater to reduce their cost of compliance.

RESPONSE: While the establishment of Management Zone boundaries do afford dischargers with flexibility to establish their boundaries, the proposals will be subject to a public process before they are finalized. Central Valley Water Board staff must engage in all instances of establishment of management zone boundaries because Management Zone Proposals will be posted for public review and comment for at least 30 days. The Executive Officer, on behalf of the Central Valley Water Board, must ultimately determine if the Final Management Zone Proposal meets the requirements of the control program. The Amendments require

a transparent process between the Notice to Comply and modification of permit provisions with multiple public comment periods at different stages and a formal public hearing process when final changes are incorporated into permits. There will be public outreach and the ability for individuals or communities to participate in this process. Complete Management Zone Implementation Plans must still consider areas outside of the Management Zone that may be impacted by discharges that occur within its boundary areas. In addition, the State Water Board has directed the Central Valley Water Board to (1) report on any areas where there are affected residents drinking water with nitrate concentrations exceeding 10 mg/L that are not covered within the area of a Management Zone and whether and how the Central Valley Water Board intends to address the lack of coverage, and (2) revise the amendments to the Basin Plans to include an alternative process for the Central Valley Water Board to modify a management zone's boundaries if it determines that the proposed management zone inappropriately excludes portions of basins with nitrate concentrations exceeding 10 mg/L.

LCJA, et al. Comments Summary No. 4: The Management Zone structure, when used for allocation of assimilative capacity and regulatory compliance, allows discharger to both mask their individual contribution to nitrate exceedances in groundwater and average groundwater quality to determine compliance. This will result in continued degradation in many areas and increased degradation and/or "hot spots" in other areas, resulting in more residents with unsafe water. Horizontal averaging and offsets should only be allowed within areas with horizontal groundwater mixing, so that water quality objectives are actually achieved.

RESPONSE: As compared to other project alternatives, the proposed Nitrate Permitting Strategy provides the most flexibility to address the three goals of the Salt and Nitrate Control Program. The proposed Management Zone framework is a regulatory compliance option that is appropriate and beneficial for many areas of the Central Valley. A Management Zone can maximize resources to address the varying degrees of nitrate concentrations found in groundwater basins/sub-basins. In addition, it can provide a more holistic and consensus-driven approach to finding solutions for localized areas of contaminated groundwater. The program provides a framework that prioritizes activities to provide safe drinking water supplies while maintaining best management practices to control nitrate sources. Path B's use of Management Zones provides the ability to leverage and maximize resources to increase the likelihood of providing alternate drinking water supplies to impacted communities and restore groundwater aquifers. This strategy allows controlled degradation during the short-term to allow a more rapid response to immediate user concerns while a longer-term nitrate management strategy is developed.

The use of horizontal averaging does not affect the requirement that localized areas of contamination within any management zone be addressed. The Nitrate Control Program contains provisions to require that localized "hot spots" will be mitigated. Offsets cannot result in unmitigated localized impairments to sensitive areas (especially drinking water supply wells) or have a disproportionate impact on a disadvantaged community. Both the Alternative Compliance Project (under

Pathway A) and the functionally equivalent Management Zone Implementation Plan (under Pathway B) must address how short- and long-term drinking water needs will be met for impacted drinking water uses and include associated timelines and milestones. The Management Zone Implementation Plan must also address how a drinking water supply that ultimately meets drinking water standards will be available to all drinking water users within the Management Zone boundary. In addition, the plans must address how the management zone will achieve balanced nitrate loadings and ultimately aquifer restoration.

The State Water Board has directed the Central Valley Water Board to revise the amendments to the Basin Plans to remove the option for management zones developed in accordance with the Nitrate Control Program to use a volume-weighted average to allocate assimilative capacity as an alternative compliance pathway. In addition, the State Water Board has directed the Central Valley Water Board to revise the Offsets policy to incorporate specific criteria for authorizing offsets and to specify that offsets for nitrate shall not be utilized as an alternative means of compliance by dischargers that are discharging into a portion of a groundwater aquifer that (a) underlies an inhabited territory as defined by Government Code § 56046, (b) is currently relied upon as a source of drinking water, or (c) that, based on local and regional plans and other readily available information, is likely to be relied upon as a source of drinking water.

LCJA, et al. Comments Summary No. 5: Compliance timeframes for the Nitrate Control Program are too lengthy and allow dischargers participating in a Management Zone who may not be meeting water quality objectives to be “in compliance” for an indefinite period. While Management Zones are potentially appropriate as an option for avoiding duplication of efforts for modeling, reporting and other activities, they should not be used as a pathway for compliance.

RESPONSE: Dischargers participating in a Management Zone will be required to complete a Management Zone Implementation Plan. The Central Valley Water Board will require that the plan include milestones and timelines for achieving the SNCP’s program goals of replacement drinking water, balanced nitrate loading, and aquifer restoration. When these plans are adopted into permits, timelines to meet objectives will be identified in compliance with the Nonpoint Source Policy. The State Water Board has directed the Central Valley Water Board to revise the Exceptions Policy to require that all discharges of nitrate must cease causing or contributing to exceedances of water quality objectives in the receiving water within a term that is as short as practicable for each discharger or category of dischargers participating in the management zone but in no case is longer than 35 years, with the opportunity for one 10-year extension for good cause.

LCJA, et al. Comments Summary No. 6: Amendments do not require dischargers to restore groundwater quality under a timeline and only require restoration where “reasonable, practicable and feasible”. The State Water Board must not approve amendments that permit groundwater degradation to continue without any guarantee of or time schedule for restoration in the future. The State Water Board should not extend

timelines any longer than 50 years for all aquifers to meet water quality objectives. The qualifier “reasonable, practicable and feasible” should be replaced with a requirement for time schedules that are as short as practicable and contain quantifiable milestones.

RESPONSE: There is no “one size fits all” approach to addressing the nitrate issues across the Central Valley. Timelines will be more appropriately identified as part of the permit adoption process. The qualifiers “reasonable, practicable, and feasible” are already in the Water Code and existing policies and do not create a new standard for de-designating beneficial uses of aquifers or adopting less stringent site-specific water quality objectives. Water quality objectives are established for the “reasonable” protection of beneficial uses of water (Wat. Code, § 13050.). The Anti-Degradation Policy requires best “practicable” treatment or control to limit degradation. And the Basin Plans state that when immediate compliance is not “feasible”, time schedules shall be established that are as short as “practicable”. Including this language in the basin plan amendments for the SNCP ensures that the Central Valley Water Board will continue to apply its discretion, as appropriate, when establishing permit requirements. As noted above, the State Water Board has directed the Central Valley Water Board to revise the Exceptions Policy to require that all discharges of nitrate must cease causing or contributing to exceedances of water quality objectives in the receiving water within a term that is as short as practicable for each discharger or category of dischargers participating in the management zone but in no case is longer than 35 years, with the opportunity for one 10-year extension for good cause.

LCJA, et al. Comments Summary No. 7: The goal of restoring balance between nitrate loading and uptake is vague, and should not be restricted to “reasonable, practicable, and feasible.” Rather, achieving a nutrient balance that is protective of groundwater should be required.

RESPONSE: Nitrate balance in the context of the SNCP is achieved when the mass loading in of nitrate equals the mass loading out. The aquifer response to nitrate balance will vary as it is dependent on a number of factors such as how and where the nitrate is removed, level of source control, the size of the aquifer, the amount of recharge, and the concentration of nitrate. This second goal of nitrate balance is intended to compliment the third management goal of restoring aquifers to be protective of beneficial uses. In addition, the State Water Board has directed the Central Valley Water Board to remove the qualifier from the amendments to the Basin Plans that the Nitrate Control Program’s goal of balanced nitrate loading should be achieved only to the extent “reasonable, feasible, and practicable.” See also LCJA, et al. Comments Summary No. 6 regarding the qualifiers “reasonable, practicable, and feasible.”

LCJA, et al. Comments Summary No. 8: When considering the cost of aquifer restoration, the human cost of having the groundwater resource of a parcel of land rendered non-potable should be considered. Getting water delivered or getting a Point of Use system installed does not make the affected party “whole.”

RESPONSE: The State Water Board and the Central Valley Water Board recognize that there are significant costs associated with communities who have been and will be impacted by nitrate contamination. As such, the Amendments place the highest priority on ensuring impacted residents have access to safe drinking water, both in the short and long term. In determining implementing managed aquifer restoration is “reasonable, practicable, and feasible,” the Central Valley Water Board will consider costs borne by both dischargers and affected residents. The Central Valley Water Board will continue to track economic impacts as information is developed through the course of implementing the proposed Basin Plan Amendments.

LCJA, et al. Comments Summary No. 9: Declaring that restoration is “unreasonable, infeasible, and unpracticable” would result in de facto de-designation, without the extensive public process proper de-designations must go through.

RESPONSE: The proposed Basin Plan Amendments provide a roadmap to achieving significant and meaningful reductions in nitrate loading to groundwater and receiving water. Only if many years of implementing nitrate load management reduction strategies fail to provide reasonable protection of beneficial uses will the Central Valley Water Board and State Water Board consider a de-designation of the MUN beneficial use from any aquifers that once supported that use but are no longer being used for drinking water as replacement water has been and will be provided to users of the aquifer. Any decision pertaining to an aquifer where restoration is potentially “unreasonable, infeasible, and unpracticable” would be subject to notification and review by the State Water Board and an extensive public process to de-designate the MUN beneficial use. Furthermore, the qualifiers “reasonable, practicable, and feasible” are already in the Water Code and existing policies and do not create a new standard for de-designating beneficial uses of aquifers or adopting less stringent site-specific water quality objectives.

LCJA, et al. Comments Summary No. 10: Amendments permit lengthy and potentially indefinite exceptions to requirement to meet water quality objectives for nitrate in groundwater, eliminating water quality protections for indefinite periods of time. The Exceptions Policy violates the Nonpoint Source Policy, which states that measures must be taken that result in a measurable improvement of water quality.

RESPONSE: The Nonpoint Source Policy (NPS Policy) does not apply to the basin plan amendments. The NPS Policy provides that a nonpoint source pollution control implementation program is a program developed to comply with State Water Board or Regional Board WDRs, waivers of WDRs or basin plan prohibitions. (State Water Board, 2004, p. 8.) CV-SALTS is a collection of basin plan amendments that (with the exception of a conditional prohibition that is consistent with the NPS Policy) do not fall within the definition of a “nonpoint source pollution control implementation program” as it is defined in the NPS Policy. Rather, WDRs that implement the basin plan amendments, as well as the Management Zone proposals, which act as the reports of waste discharge for those WDRs, must comply with the NPS Policy. Therefore, those WDRs must

include time schedules and quantifiable milestones designed to achieve water quality objectives. In order to underscore the requirement that Management Zone proposals comply with the NPS Policy, the Central Valley Water Board shall initiate efforts to incorporate additional language in the Nitrate Control Program specifying that the Management Zone Implementation Plans shall be consistent with the NPS Policy.

The requirement in the NPS Policy is for time schedules and quantifiable milestones for discharges to not cause or contribute to exceedances of water quality objectives, not for restoration of the water body to those objectives. Even where discharges to groundwater are no longer causing or contributing to an exceedance, it may take additional time for an aquifer to achieve objectives.

Studies conducted under the CV-SALTS effort confirmed that the restoration of many of the nitrate-impacted aquifers in the Central Valley may take many decades, even if all nitrate discharges to the aquifer were to cease today (i.e., effectively putting a halt on most agricultural practices in the Central Valley). Exceptions to nitrate standards are not granted without consideration of water quality protection. Exceptions for nitrate will not be considered unless an adequate supply of clean, safe, reliable and affordable drinking water is available for those who have been adversely affected by the non-compliant discharge. Exceptions require permittees to follow Best Management Practices (BMPs), submit status reports every five years and participate in an Alternative Compliance Project(s), Early Action Plan or other implementation measures consistent with the Nitrate Control Program. Local conditions for nitrate in groundwater vary widely throughout the Central Valley and no single solution will resolve the issues faced by every community impacted by nitrate in groundwater. Instead, the proposed Basin Plan Amendments provide a framework for addressing a wide variety of scenarios across the valley. As such, the Amendments do not impose a “one size fits all” timeline in the Exceptions Policy to meet nitrate water quality objectives. This does not result in a violation of the Nonpoint Source Policy since specific timelines and milestones can instead be more appropriately set during the permitting process.

Section B. SPECIFIC RESPONSES

LCJA, et al. Comment No. 1: Time limits for review of a water quality control plan are set forth in Water Code § 13246 and contain a 60-day deadline for state board action. Per this requirement, the State Water Board must act on the amendments by September 4, 2018.

RESPONSE: Comment noted.

LCJA, et al. Comment No. 2: During the process of the SNMP development decisions were made at the last minute with limited review time. Even a cursory review of the SNMP and the comments submitted by environmental justice stakeholders reveals that the SNMP and corresponding basin plan amendments reflect a nitrate control program

drafted by dischargers without significant changes in response to our extensive comments and red-line edits.

RESPONSE: For over a decade, the Central Valley Water Board has been involved in the CV-SALTS stakeholder process to develop what first was envisioned to be just a Salt Control Program, but later included a nitrate component as well. Appendix L of the Staff Report (Central Valley Water Board, 2018b) details the extensive public process related to the development of the Amendments. In summary, there were over 150 monthly CV-SALTS Executive Committee meetings, over 50 Technical Committee meetings, over 55 Public Education and Outreach Committee Meetings, and over 50 other related meetings, all open to the public. In addition, there were four CEQA scoping meetings held in 2013 in Fresno, Modesto, Colusa and Rancho Cordova to identify likely alternatives under consideration for the long-term management of salt and nitrate in the Central Valley. Updates on the project and its ongoing commitment to providing the public and affected stakeholders opportunities to participate were presented to the State Water Board at 6 public meetings from 2011-2019. Public workshops at the Central Valley Water Board were held 7 times prior to the final adoption hearing in May 2018. During this timeframe, multiple drafts of the SNMP, and later the Amendments and draft Staff Report, were released for a public comment period.

Many significant changes were made to the nitrate permitting strategy during the development of the SNMP and the SNCP based on input from environmental justice stakeholders, especially regarding the Early Action Plans and replacement drinking water to impacted communities. Chapter 4 of the Final Staff Report (Central Valley Water Board, 2018b) also identifies and evaluates project alternatives provided by the environmental justice stakeholders. Suitable consideration was given to comments made by environmental justice advocates.

LCJA, et al. Comment No. 3: The Regional Board makes no claim that Path A dischargers will adequately identify domestic wells and state small systems that exceed the MCL for nitrate. Without requiring testing of domestic wells and state small systems, dischargers will not identify or mitigate all drinking water impacts.

RESPONSE: Path A dischargers are equally responsible for identifying the impacted domestic wells and state small systems in their area. The Amendments require that they conduct an initial assessment of water quality conditions in their area and survey their discharge to determine if the discharge is causing any public water supply or domestic well to be contaminated by nitrate. The requirements of the Early Action Plans to address the replacement water needs of impacted communities apply to both Path A and Path B dischargers.

LCJA, et al. Comment No. 4: Commenters strongly disagree that the materials supporting the Staff Report demonstrate that it is *“technically infeasible for most agricultural dischargers to consistently comply with the nitrate standard....”* Compliance may be costly for growers of some crops in some areas but is technically feasible for all

or at least the majority of dischargers. The Regional Board's conclusion is not based on any data in or referenced by the Staff Report.

RESPONSE: Many references regarding the technical feasibility for most agricultural dischargers to consistently comply with nitrate standards for waters of the State of California were reviewed. Although additional studies are needed, commenters should begin by consulting the report titled: *Addressing Nitrate in California's Drinking Water*, and its eight associated technical reports for the *California Nitrate Project Implementation of Senate Bill X2.1* (Harter et. al., 2012). The reports were published in January and July 2012 by the University of California, Davis – Center for Watershed Sciences, for the California State Water Resources Control Board. These detailed and thorough reports, reviewed by Regional Board staff preparing the Staff Report, reference much of the body of literature available on the subject.

The California Nitrate Project reports have summarized modeling presented in the literature by many contributors and have highlighted the complexity of nitrogen management. A nitrogen management plan that has proven effective at a given location and time can be much less effective at other places and times due to the variability of the multiple parameters influenced by leaching. We have concluded that economically feasible nitrogen management practices reported in the literature should be implemented in any nitrogen management plan. However, we have also concluded that many such management plans are not consistently reducing nitrate concentrations in leachate to less than the groundwater maximum contaminant level of 10 milligrams per liter (MCL).

A measure of nitrogen use efficiency often reported in the literature is partial nitrogen balance (PNB) which is the ratio of harvested nitrogen to applied fertilizer nitrogen. Reports of the California Nitrate Project mentioned above, reviewed technical and scientific literature to compile a list of practices known or theorized to improve crop nitrogen use efficiency. The reports have found that available estimates of crop nitrogen uptake efficiency vary widely. Crop-specific expert panels were asked to review and revise the list. Panel member input helped estimate current use of each practice and associated rates of crop nitrogen uptake efficiency in the Tulare Lake Basin and Salinas Valley.

While researchers have concluded that feasible improvement of farming practices can reduce the rate of nitrate lost by leaching from the crop root zone to well below currently observed rates, it is not certain that the concentrations in groundwater would be reduced to below the MCL. Even with consideration of the feasible upper limit recovery of applied nitrogen reported by U.S. EPA, modeling has suggested that widespread attainment of nitrate standards in groundwater is not likely at this time. Although there are significant barriers to adoption of improved practices, a 2011 U.S. EPA report estimated that with adoption of best management practices, PNB could be increased by up to 25 percent of current average values. However, the report estimated a practical upper limit is about 80 percent crop recovery of applied nitrogen due to the unpredictability of rainfall, difficulty in predicting the rate

of mineralization of organic nitrogen in soil, variability of soil properties, and growers need to leach salt from the soil. A complicating factor is that during extended dry periods, enough water is not available to adequately leach salts from soil and meet crop yield requirements in many areas. As a result, this can increase the concentration of nitrogen in leachate.

Several literature studies have focused on modeling the nitrogen concentrations in leachate that reaches the groundwater table. Such models rely on values of various parameters including specific crop evapotranspiration rates, volumes of applied irrigation water, rainwater, runoff, nitrogen concentrations in soil and irrigation water, specific crop nitrogen uptake efficiencies, atmospheric deposition and loss, crop rotation, and application timing of irrigation water and nitrogen fertilizer. Current and pending waste discharge requirement orders (WDRs) for growers in the Central Valley require dischargers to collect and record data on fertilizer use and irrigation practices, which will inform experiments and analysis needed to develop appropriate nitrogen policy and attainable nitrogen standards. Until enough data are available, staff will rely upon the results of modeling to develop a path forward in establishment of feasible policies and quantifiable regulatory nitrogen standards. The results, based on input data currently available, have aided staff in the estimation of achievable nitrate concentrations in groundwater beneath some crops grown in the Central Valley at this time.

LCJA, et al. Comment No. 5: Full restoration will not happen overnight and it may be that more extensive projects will need time to develop and be financed, but that does not preclude the implementation of smaller projects designed to start moving the basin in the right direction.

RESPONSE: Agreed. The Amendments fully support the implementation of smaller projects to move the basin in the right direction while larger and more extensive projects are fleshed out.

LCJA, et al. Comment No. 6: The Regional Board asserts in the Response to Comments that Water Code section 13241 requires consideration of “*economic and technical feasibility*” in “*any basin planning exercise*.” But this misreads the statute. Section 13241 applies to establishing water quality objectives, not basin planning in general. CV SALTS does not propose to change the water quality objective for nitrates. Section 13241 therefore does not apply.

RESPONSE: The commenter is correct in stating that Water Code 13241 applies to the establishment of water quality objectives, with factor (d) requiring economic and/or technical consideration by the Central Valley Water Board. However, there are additional legal requirements related to economic and technical feasibility and basin planning projects:

- Water code section 13141 requires that prior to implementation of any agricultural water quality control program, the Central Valley Water Board

must include an estimated cost of such a program, together with an identification of potential sources of funding, in the Basin Plans.

- Water Code section 13242 requires the Central Valley Water Board to develop a program of implementation for achieving water quality objectives which includes (a) a description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private; (b) a time schedule for the actions to be taken; and (c) a description of surveillance to be undertaken to determine compliance with objectives.

LCJA, et al. Comment No. 7: Section 13240 requires the basin plans conform to “any state policy for water quality control.” The Nonpoint Source Policy does not permit a regional board to balance its obligation to meet water quality objectives against costs to dischargers. The Recycled Water Policy similarly contains no economic qualification related to the requirement to attain water quality objectives.

RESPONSE: See response to LCJA, et al. Comment 6 above for more information on legal requirements the Central Valley Water Board must consider relative to economics. See response to LCJA, et al. Comment Summary No. 10 above for a discussion on the applicability of the NPS Policy to the Amendments. The Recycled Water Policy states that it is the “intent of the Policy” that salts and nutrients be managed in a manner that ensures attainment of water quality objectives. (State Water Board, 2018, p. 7.) The Recycled Water Policy also does not require that water quality objectives must be met immediately, so it must allow attainment over time as provided for in the NPS Policy and Porter-Cologne. The Nitrate Control Program is a significant step forward in establishing a reduction in nitrate loading and attaining aquifer restoration throughout the Central Valley, while simultaneously ensuring that impacted drinking water supplies are mitigated. Current regulatory strategies have not come close to adequately meeting these objectives.

LCJA, et al. Comment No. 8: Commenters are concerned with the impact of the alternative definitions of shallow groundwater contained in the Amendments. The Regional Board responds that it requires flexibility due to the “extreme variability” of the Central Valley Region. However, by defining shallow groundwater by reference to the shallowest 10% of domestic wells in the subbasin, the first definition already responds to the variability to groundwater levels throughout the Region. Further, given the severe impact an inadequate definition would have, the Executive Officer should not be authorized to approve alternative definitions without adequate public process.

RESPONSE: Under Water Code section 13223, the Central Valley Water Board may delegate its powers and responsibilities (with a few enumerated exceptions that are not implicated here) to the Executive Officer. In this instance, there are three options to determine the ambient nitrate concentrations in the Shallow Zone for the purposes of the Nitrate Control Program. The Shallow Zone is designed to

represent the area of the aquifer available for use by the shallowest domestic wells. The first option is to use readily available data and information to calculate ambient nitrate concentrations for the shallowest ten percent (10%) of the domestic water supply wells. The second is to conduct a site or area specific evaluation based on various types of available data and information, including but not limited to, depth and age and domestic wells in the area of contribution, groundwater table, well completion report data, and other available and relevant information. The third is an equivalent alternative approved by the Executive Officer. The three options give needed flexibility and allow dischargers to provide more site-specific information when available. If the Executive Officer approves any alternative under the third option, it must be equivalent to the other two options so it will provide the same level of protection to the Shallow Zone.

LCJA, et al. Comment No. 9: The Regional Board did not respond to a request for clarification as to whether assimilative capacity for Path A would be determined on the discharger level or Coalition level as this is not clearly addressed within the Amendment or Staff Report. If assimilative capacity can be determined at the Coalition-scale then this will allow, in some instances, cross-basin averaging, and is highly likely to result in localized impacts.

RESPONSE: As with the Management Zone approach, assimilative capacity for permittees selecting Path A would not include cross-basin averaging at the scale of a coalition with the Irrigated Lands Regulatory Program. See LCJA, et al. Comments Summary No. 4 for a discussion on localized impacts.

LCJA, et al. Comment No. 10: The following recommendation in our comment letter to the Regional Board which was not directly addressed:

Recommendation: Place common sense requirements upon the creation of management zones such as requiring that management zones provide justification for why the boundaries were drawn and why areas which are not covered by any other management zone do not need to be included in a management zone.

We further add to this recommendation that when a discharger explains why the Management Zone boundaries may leave out certain areas the explanation must include: (1) whether the area will be covered by another management zone; (2) publicly available hydrologic modeling showing that the area to be excluded does not have a hydrologic connection to the management area; (3) what outreach has been conducted to potentially impacted communities.

RESPONSE: The current proposed language includes a list of requirements for the submittal of a Preliminary Management Zone Proposal including the proposed preliminary boundaries of the Management Zone area, the identification of initial and potential participants, an initial assessment of groundwater conditions, identification of public water supplies or domestic wells within the Management Zone area with nitrate concentrations exceeding the water quality objective, an Early Action Plan to address drinking water needs for those that are impacted by

nitrate, documentation of the process utilized to identify affected residents and the outreach utilized to ensure that they are given the opportunity to participate in development of an Early Action Plan, and identification of areas within or adjacent to the management zone that overlap with other management areas/activities. Central Valley Water Board staff will be reviewing these proposals to ensure that requirements are met and that boundaries are appropriate for the area that is identified and the dischargers that are participating. These requirements will provide the type of information that the commenter is recommending above and will be available as part of the public comment process. Furthermore, the State Water Board has directed the Central Valley Water Board to (1) report on any areas where there are affected residents drinking water with nitrate concentrations exceeding 10 mg/L that are not covered within the area of a Management Zone and whether and how the Central Valley Water Board intends to address the lack of coverage, and (2) revise the amendments to the Basin Plans to include an alternative process for the Central Valley Water Board to modify a management zone's boundaries if it determines that the proposed management zone inappropriately excludes portions of basins with nitrate concentrations exceeding 10 mg/L.

LCJA, et al. Comment No. 11: The Amendments state that *“allocation of assimilative capacity for a Management Zone may not be for an area larger than an identified basin or sub-basin from Table N-2”* (p.43), but further clarification should be included in the section defining the characteristics of management zones (p.36).

RESPONSE: The “Management Zone Request for Allocation of Assimilative Capacity” section of the proposed basin plan addresses this and duplicating a small section of it in the characteristic section is not appropriate.

LCJA, et al. Comment No. 12: Clarification of the term “significant” should be made within the Staff Report given that as written it implies that some communities with MCL violations should be prioritized over others with less “significant” MCL violations.

RESPONSE: The Central Valley Water Board's response to LCJA, et. al. Comment No. 16 (Central Valley Water Board, 2018a, pg. 125), clarifies that “significant” refers to those impacts that are above the applicable water quality standard. The Response to Comment document is part of the Administrative Record so the clarification of the term “significant” is also part of the record.

LCJA, et al. Comment No. 13: The use of offsets will allow water quality issues to continue to spread and result in a program where the cost of supplying drinking water solutions will likely at some point overwhelm the resources of dischargers to mitigate the problem.

RESPONSE: The final Staff Report (Central Valley Water Board, 2018b) states on page 296, *“Offsets would provide an indirect approach to partial or complete compliance with a WDR/conditional waiver requirement for a given pollutant by managing other sources and loads so that the net effect on receiving water quality*

from all known sources is functionally–equivalent to or better than that which would have occurred through direct compliance with the WDR at the point-of-discharge.” The Staff Report also says on page 299, *“One major goal of the offset policy is to allow pooling resources of many relatively small dischargers into a critical mass of funding to support water quality projects that would normally be beyond the means of individual dischargers to fund.”*

As noted above, the State Water Board has directed the Central Valley Water Board to revise the Offsets policy to incorporate specific criteria for authorizing offsets and to specify that offsets for nitrate shall not be utilized as an alternative means of compliance by dischargers that are discharging into a portion of a groundwater aquifer that (a) underlies an inhabited territory as defined by Government Code § 56046, (b) is currently relied upon as a source of drinking water, or (c) that, based on local and regional plans and other readily available information, is likely to be relied upon as a source of drinking water.

LCJA, et al. Comment No. 14: Offsets should have some regular reporting requirement to the Regional Water Board and should be time limited. The Regional Board did not respond to our suggestion that reporting be required every 5 years.

RESPONSE: Since ACP proposals include defined milestones and regular reporting, reporting need not be arbitrarily set to every 5 years. Depending on site-specific conditions, there may be cases where the Central Valley Water Board would require more or less frequent reporting.

LCJA, et al. Comment No. 15: Timelines in the Alternative Compliance Plans are created by dischargers. Key Element 3 of the Nonpoint Source Policy requires that the regulator develop time schedules, not the discharger.

RESPONSE: See response to LCJA, et al. Comment Summary No. 10 above for a discussion on the applicability of the NPS Policy to the Amendments. While timelines in ACPs may be proposed by dischargers, the Central Valley Water Board has the discretion to change and approve different timelines as part of the permitting actions associated with the ACP.

LCJA, et al. Comment No. 16: We disagree with Staff that implementing a 10-year time-limit for offsets would be inconsistent with the goals of the SNMP, as a timeline would actually further the goals of promoting balance and restoration.

RESPONSE: The State Water Board has directed the Central Valley Water Board to revise the Offsets policy to incorporate specific criteria for authorizing offsets, including limiting the offset for nitrate to a time period of no more than ten years.

LCJA, et al. Comment No. 17: Water Code § 106 is not limited by later-enacted § 106.5 as the Regional Board contends. (See *Meridian, Ltd. v. San Francisco* (1939) 13 Cal.2d 424, 450 [Without citing § 106, noting that “[t]he highest use in accordance with the law is for domestic purposes, and the next highest use is for irrigation.”].) Further, case law has recognized that the same principle applies in the context of

reduction of water quality. (See *Deetz v. Carter* (1965) 232 Cal.App.2d 851, 856 [Holding in the context of § 106, “Quality as well as quantity is a factor in water use. If quality maintenance of natural stream water intended for domestic use calls for a flow in excess of actual consumption, then the priority conferred on domestic needs should not be quantitatively limited to actual consumption.”].)

RESPONSE: As discussed in the Central Valley Water Board’s response to LCJA, et. al. Comment No. 24 (Central Valley Water Board, 2018a, pg. 124) both Water Code § 106 and 106.5 apply to water rights and are not applicable to basin plan amendments. *Deetz v. Carter* (1965) 232 Cal.App.2d 851, focused exclusively on the issue of apportionment of water among riparian owners in the context of water rights. Nothing in the Amendments changes or supersedes any existing rights to the use of groundwater or surface waters.

LCJA, et al. Comment No. 18: De minimis discharges are regulated to the same extent as dischargers that cause no degradation. To the extent that this is not accurate, the Amendments should be revised to clarify the impact of a Category 2 designation. Our contention is that there is no authority for a de minimis designation in Porter-Cologne or applicable law.

RESPONSE: It is inaccurate that de minimis discharges will not be regulated under the Nitrate Control Program. “De minimis” refers to a degradation threshold – permittees that fall under this threshold will not be required to conduct a detailed hydrogeologic analysis because discharges that fall under the threshold have demonstrated that they will only cause minimal degradation. In order to qualify for the Category 2 designation, the average nitrate concentration in the Shallow Zone must be better than the applicable water quality objective, and over a 20-year planning horizon: 1) the effect of the discharge on the average nitrate concentration in the Shallow Zone is expected to use less than ten percent (10%) of the available assimilative capacity in the Shallow Zone; and 2) the discharge, in combination with other nitrate inputs to the Shallow Zone, is not expected to cause average nitrate concentrations in the Shallow Zone to exceed a nitrate trigger of 75% of the applicable water quality objective. Therefore, dischargers will qualify for Category 2 designation only where there is assimilative capacity such that all discharges in the area will not cause an exceedance of water quality objectives. The Anti-Degradation Policy authorizes some degradation of the aquifer since there is assimilative capacity. Additionally, such discharges will still operate under waste discharge requirements that will require the protection of beneficial uses.

LCJA, et al. Comment No. 19: As the Regional Board’s Antidegradation analysis fails to correctly apply the legal standards set for the in AGUA, the Board did not have the authority to authorize degradation of high quality waters. The Regional Board must, at a minimum, analyze the data it has to quantify the prevalence of high quality waters in the region and the extent to which degradation of high quality waters will occur. This is necessary to determine whether and to what extent the Amendments will cause exceedances or interfere with beneficial uses, and whether the Amendments are consistent with maximum benefit to the people of the state.

RESPONSE: As the State Water Board noted in WQO 2018-0002, the traditional antidegradation analysis for a discrete point source is not applicable in the context of a general order regulating both surface water and groundwater discharges from irrigated agriculture operations across a large landscape. (WQO 2018-0002 at p.77.) In WQO 2018-0002, the State Water Board said that for a general order, a “general review and analysis of readily available data is sufficient.” (WQO 2018-0002 at p.78.) This is equally applicable to the Amendments which regulate discharges from an even broader spectrum of operations. As stated on page 324 in the Final Staff Report (Central Valley Water Board, 2018b), the Amendments themselves do not authorize any activities that would cause water quality degradation. Therefore, the anti-degradation analysis is not a granular analysis of every permittee, as that analysis will occur when the permits are modified. (*Ibid.*) Instead, the analysis describes how the implementation of the Salt Control Program would change how the Central Valley Water Board permits activities that may cause degradation and how such degradation will be required to be consistent with applicable state and federal anti-degradation policies. (*Id.* at p. 324-25.)

LCJA, et al. Comment No. 20: The State Antidegradation Policy requires that the Regional Board analyze the environmental aspects of the discharge and prevent nuisance. Failure to consider air quality impacts associated with the discharge, and whether the impacts rise to the level of nuisance, renders the analysis incomplete.

RESPONSE: Water Code section 13050(m)(3) defined nuisance, as relevant here, as occurring “during, or as a result of, the treatment or disposal of wastes.” The application of nitrogen fertilizers is not the “disposal of wastes”, but rather essential to producing a crucial, reliable food supply. The related waste product is the residual nitrogen that is not taken up by the crop

LCJA, et al. Comment No. 21: The Federal Antidegradation Policy is not whether surface water bodies are impaired, but rather whether the Amendments permit degradation. While the Regional Board expresses an opinion that nitrate loading is expected to be reduced from current levels, that is not the same as a conclusion that loading will be reduced to the point of compliance with water quality objectives, at least not on any defined time schedule. The Staff Report acknowledges that groundwater degradation will continue for an undefined amount of time, and degradation of groundwater has the potential to degrade surface water.

RESPONSE: The Federal Antidegradation Policy requires a determination that before allowing any lowering of high quality water, the State shall find that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. (40 C.F.R §131.12(a)(2)(ii).) The Central Valley Water Board undertook such an analysis in the Final Staff Report. (Central Valley Water Board, 2018b, p. 319-43.) With regards to the Nitrate Control Program, the Final Staff Report determined that it is geared solely towards rectifying and addressing issues related to nitrates in groundwater therefore the Federal Antidegradation Policy does not apply. (*Id.* at p. 336.) If a connection is found between a particular groundwater aquifer and a surface waterbody in a

future permitting action, then any impacts to that surface waterbody would be addressed in the antidegradation analysis for that permit.

LCJA, et al. Comment No. 22: The Regional Board's expectation that degradation of groundwater will not have water quality impacts on navigable surface water within the Central Valley Region does not constitute an analysis of the public trust doctrine. Further, sources of drinking water are a public trust resources, and the Regional Board must take the public trust into account when approving policies that interfere with the public's human right to water.

RESPONSE: The public trust doctrine applies to the State's trustee duties with respect to navigable surface waters. The Amendments are not expected to have any effect on tidal or navigable bodies of water. The public trust doctrine has not been extended to discharges of waste as an independent doctrine because it has already been expressed in Porter-Cologne. Porter-Cologne subsumes the public trust doctrine through the protection of beneficial uses, included the municipal drinking water beneficial use. Therefore, a separate analysis of the public trust doctrine is not required.

LCJA, et al. Comment No. 23: To the extent that the Regional Board failed to respond to our prior comments on the Environmental Analysis, we request a response from the SWRCB.

RESPONSE: The State Water Board has responded to all of the comments made by LCJA in their August 13, 2018 letter in this response. LCJA has not identified any other comments it believes were not adequately responded to by the Regional Board.

LCJA, et al. Comment No. 24: The Regional Board did not provide a citation for its conclusion that the entire Staff Report serves as the SED, and we have been able to find no such authority. These organizations set forth a detailed alternative, which must be fully evaluated as part of the SED, along with alternatives sufficient to comprise a reasonable range. Analysis of only a no project alternative and the proposed project does not constitute analysis of a reasonable range of alternatives. (*See Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 390; see also Exhibit 4, p. 27.)

RESPONSE: Under Title 23 California Code of Regulations section 3777, a substitute environmental document (SED) shall consist of: 1) a written report prepared for the board, containing and environmental analysis of the project; 2) a complemented environmental checklist; and 3) other documentation as the board may include. In this case, the SED consists of the Staff Report (Central Valley Water Board, 2018b) and the Environmental Checklist. (Resolution R5-2018-0034, ¶ 26.) As the Staff Report is not qualified in the Resolution language, the entire Staff Report is included in the SED. As discussed in the Central Valley Water Board's response to LCJA, et. al. Comment No. 43 (Central Valley Water Board, 2018a, pg. 133-34), the Central Valley Water Board did consider other alternatives,

but many did not meet the three overarching goals of the Amendments. The SED is sufficient to satisfy applicable regulatory requirements.

LCJA, et al. Comment No. 25: SGMA does not require sustainability until 2040 or 2042, depending on priority status. As such, the Regional Board cannot rely on SGMA to prevent significant impacts on groundwater supply in the near or moderate term.

RESPONSE: The proposed Salt and Nitrate Control Program is designed to complement SGMA efforts but does not depend on SGMA to achieve the goals of the program.

LCJA, et al. Comment No. 26: To the extent that the Regional Board contends that the appropriate baseline is current environmental conditions without consideration of declines in greenhouse gas emissions under the No Project alternative, it must nevertheless evaluate whether greenhouse gas emissions are expected to be lower absent the Amendments within its alternatives analysis.

RESPONSE: The Final Staff Report (Central Valley Water Board, 2018b, p.370) states that the No Project Alternative could indirectly cause impacts to greenhouse gas emissions from construction and operation of projects/facilities necessary to achieve current regulatory requirements. No cumulative impact determination was made because such projects were not adequately defined for environmental review and separate project-specific environmental reviews will be performed. (*Id.* at p. 370-71.) The Final Staff Report recognized that there was the potential for indirect, cumulative effects to greenhouse gas emissions from the No Project Alternative, but those would be addressed in separate project-specific environmental reviews. (*Id.* at 371.)

LCJA, et al. Comment No. 27: The Antidegradation analysis and Regional Board findings rely on the economic analysis, and to the extent that treatment and replacement water costs are underestimated, the justification for the SNMP and Amendments is based on faulty reasoning.

RESPONSE: As determined by the Central Valley Water Board, the replacement water costs do not significantly affect the overall economic analysis and the findings presented in the Antidegradation analysis. The Central Valley Water Board should continue to verify economic impacts periodically through the implementation process of the Salt and Nitrate Control Program.

LCJA, et al. Comment No. 28: While the Amendments are not facially discriminatory, they will have a disparate impact on communities of color and protected classes for the reasons stated in our May 8, 2018 letter. Further, efforts taken to mitigate impacts on communities of color are inadequate, as they do not effectively address communities or residents reliant on domestic wells or state small water systems, for which no comprehensive well testing program currently exists.

RESPONSE: In WQO 2018-0002, the State Water Board analyzed whether the Eastern San Joaquin Agricultural General WDR was discriminatory. (WQO 2018-0002 at p.61.) The State Water Board found that in part due to the drinking water well monitoring provisions, the General WDR would not disproportionately impact or discriminate against Latino and low-income communities. (*Id.* at p. 61-62.) These Amendments go far beyond just monitoring drinking water wells and providing notification of exceedances. The highest priority and most immediate actions taken to fulfill the requirements of the Nitrate Control Program will be conducted in areas of the Central Valley with higher concentrations of disadvantaged communities. The program also requires that safe drinking water is provided to people and communities with impacted domestic wells or state small water systems. There are no discriminatory provisions in the proposed Basin Plan Amendments.

LCJA, et al. Comment No. 29: The Amendments will have a disparate impact on communities of color in the Central Valley, who are more likely to be impacted by nitrate exceedances in groundwater than the population at large. The impact on low-income and disadvantaged communities in effect makes unavailable and denies access to housing, in that access to safe drinking water is necessary to habitability. The Regional Board also fails to respond to Government Code § 65008, under which “any discriminatory action taken *“pursuant to this title by any city, county, city and county, or other local governmental agency in this state is null and void if it denies to any individual or group of individuals the enjoyment of residence, land ownership, tenancy, or any other land use in this state...”*”

RESPONSE: As discussed in the Central Valley Water Board’s response to LCJA, et. al. Comment No. 50 (Central Valley Water Board, 2018a, pg. 136), the State Water Board agrees with the Central Valley Water Board that the Amendments do not fall within any category of unlawful practices articulated in Government Code section 12955. The Amendments are designed to improve overall water quality in the Central Valley, and to address nitrate-impacts wells particularly by providing replacement drinking water to impacted users. Government Code section 65008 does not apply to either the State Water Board or the Central Valley Water Board as neither are a “city, county, city and county, or other local governmental agency” that is covered by that statute.

8. PACIFIC COAST FEDERATION OF FISHERMEN’S ASSOCIATIONS (PCFFA) AND INSTITUTE FOR FISHERIES RESOURCES (IFR)

Comment letter was received by the State Water Resources Control Board on August 13, 2018.

PCFFA and IFR Comment No. 1: We are opposed to any relaxation of water quality standards or other decisions that will actually make water quality worse in this already highly impacted system including changes to monitoring approaches that weaken the standards. Such relaxations include undefined variances, drought exceptions, and permitted pollutant ‘hot spots’.

RESPONSE: The proposed Basin Plan Amendments, derived from over a decade of stakeholder meetings, take a comprehensive and holistic approach towards not only achieving balanced salt and nitrate loading in the Central Valley but attaining aquifer restoration.

With regard to salinity variances, federal regulations require dischargers to meet interim effluent limitations representing the highest attainable condition during the term of the variance. In addition, variances during Phase 1 of the Salt Control Program will only be eligible to participants in the P&O Study, which will provide the roadmap to long term solutions to the salinity water quality issues in the Central Valley. The Drought and Conservation Policy will only be used during Phase 1 to guide interim effluent limits under the Variance Policy during temporary drought conditions. While the policy does allow for salinity concentrations to increase when there is less water, it does not allow for the total loading to increase. The Salt and Nitrate Control Program's surveillance and monitoring program builds off existing monitoring programs to ensure that there are periodic region-wide assessments to evaluate trends and whether program goals are being achieved. This monitoring approach will serve to strengthen, not weaken, the evaluation of beneficial use protection.

PCFFA and IFR Comment No. 2: We reiterate here that in many cases the most sensitive and impaired beneficial use for surface water in the project areas is public trust fisheries resources dependent upon cold water, as well as functional and unimpaired spawning and rearing habitats on which these fisheries depend. Commercially harvested salmon fisheries require cold water, especially in the spring and fall, and during drought years, yet it is often not available because of the excessive use of water to dilute high salinity and otherwise impaired discharge for export. Furthermore, fish cannot tolerate hot spots or compliance points.

RESPONSE: The Amendments do not remove or modify any water quality standards or site-specific water quality objectives related to the protection of aquatic life or fisheries resources. Instead, the Amendments add provisions to the Basin Plans to address salinity impacts in the Central Valley both in both the short and long-term. In addition, the Amendments recommend that the California Environmental Protection Agency, the California Department of Fish and Wildlife and the Delta Stewardship Council participate in the P&O Study to ensure that proposed long-term salinity solutions will not adversely impact state resources, which include public trust fisheries.

PCFFA and IFR Comment No. 3: This plan includes drastic drought exceptions to water quality standards that will only exacerbate water quality problems and impact fisheries.

RESPONSE: See response to PCFFA and IFR Comment No. 1 and 2. The Drought and Conservation Policy uses the recommended Secondary MCL for the short term of 2,200 uS/cm EC and is expected to provide reasonable protection of designated uses during emergency drought conditions. In addition, the policy does

not allow for total salinity loading to increase during these periods. The requirement for the Central Valley Water Board to conduct anti-degradation analysis, evaluate downstream impacts and protect water quality does not change.

PCFFA and IFR Comment No. 4: We reject the staff report's claim that high salinity water is imported as the evidence suggests that salinity in freshwater supplies in the Central Valley is mainly generated by agricultural discharges. These agricultural-related salinity discharges are chemically impaired, resulting in losses to fish populations throughout their ontogeny.

RESPONSE: The final Staff Report (Central Valley Water Board, 2018b) states on page 10 that salt *"is exported from the Sacramento River Region to the Delta and ultimately the San Joaquin and Tulare Lake regions via the water projects."* It also states on page 81 that the water projects *"import nearly 400 thousand tons of salt a year from the Delta into the valley."* Higher salinity water imported from the water projects replaces lower salinity water from the Sierra Nevada to supply a significant portion of the agricultural irrigation water in the Central Valley. Thus, the high salinity water from the water projects in conjunction with its use as irrigation supply water has resulted in many of the salinity-related water quality issues the Central Valley faces today.

PCFFA and IFR Comment No. 5: We agree with the stated concerns of agencies including the Contra Costa Water District and Sacramento River Source Water Protection Program that this plan allows pollution to persist for far too long, allows high quality water to be degraded, effectively changes allowable Secondary Maximum Contaminants levels and water quality standards by determining compliance based on dissolved metals levels rather than whole concentrates, includes too many exceptions and variances, and does not include findings of consistency with the state antidegradation policy. The proposed changes to monitoring procedures for water treatment plants do not protect river water quality because river water will not be filtered and tested. The process has thus far served to weaken water quality standards for salinity and chloride at a time when they should be strengthened.

RESPONSE: See PCFFA and IFR Comments Nos. 1 and 4. With regard to Secondary MCLs, the comment is not accurate because the proposed Basin Plan Amendments do not determine compliance based on dissolved metals levels. Proposed clarifications to the existing basin plan language specify a filter size (1.5 microns) that the Central Valley Water Board believes more closely represents the level of filtration that typically occurs with conventional drinking water treatment for raw surface water supplies or as water percolates through the vadose zone. While a 1.5 micron is specified, the revised text also gives the Central Valley Water Board the authority to specify a different filter size where necessary to more accurately represent site-specific conditions. Changes to the 1.5 micron filter size may be based on scientific evidence submitted to the Central Valley Water Board and will be subject to a consultation with Division of Drinking Water and a public comment process. However, all filtered and unfiltered samples will continue to be analyzed using the acid-soluble, total recoverable method.

PCFFA and IFR Comment No. 6: Secondary contaminants such as copper, chloride, pesticides, and selenium are known to harm aquatic life at lower compliance levels than what is currently permitted at most water treatment plants.

RESPONSE: The proposed Salt and Nitrate Control Program does not change the way any of these constituents are evaluated for the protection of the aquatic life beneficial use. The Secondary MCLs were established to protect human welfare and these water quality objectives are specific to the MUN beneficial use protection. The Amendments do not change how the Central Valley Water Board establishes effluent limits to meet other water quality objectives, such as Primary MCLs or the California Toxics Rule. As such, where multiple water quality objectives exist for the same chemical constituent, the discharger must meet the most stringent of the applicable permit conditions.

PCFFA and IFR Comment No. 7: We suggested that the board analyze the Fish and Wildlife Service recommendation that 379,000 acres of drainage impaired lands in the San Luis Unit be retired and suggested that the rights for the associated water be used for dilution and fisheries flows, which could lead to attainment of water quality standards. These suggestions have been ignored and no changes based on our comments have been discussed by the board. It appears that this process has ignored scientific and policy recommendations that could ameliorate this situation in order to facilitate compliance for excessive discharges, threatening public trust fisheries resources, environmental quality, and drinking water supplies.

RESPONSE: This comment falls outside the scope of the Central Valley's proposed amendments to establish a region-wide Salt and Nitrate Control Program. A Management Zone could propose actions similar to the Fish and Wildlife Service's recommendation as part of its Implementation Plan, but that would be part of the implementation of the Amendments rather than the adoption of the Amendments.

PCFFA and IFR Comment No. 8: We recommend a proper analysis of the impacts of the basin plan amendments to fisheries, including cumulative effects analysis. At this point it is hard to assess how much damage this plan could do, or continue to facilitate, to fisheries and aquatic life due to the lack of such an analysis.

RESPONSE: The Central Valley Water Board's Staff Report (Central Valley Water Board, 2018b) contains an Antidegradation Analysis in Chapter 6 and a CEQA Environmental Checklist in Appendix K., both of which discuss impacts to biological resources, fish protection and cumulative impacts. Findings from the environmental analyses determined that impacts from the proposed Basin Plan Amendments to biological resources were less than significant. In addition, with respect to salinity parameters in surface water, implementation of the proposed program is not expected to have a considerable contribution to any adverse cumulative condition. Note that the Amendments do not change any aquatic life beneficial use designations or associated water quality objectives or implementation programs associated with these uses. Site-specific salinity

objectives such as those established for the Lower San Joaquin River or the South Delta will not be changed by the Amendments. The Amendments also do not prevent the Central Valley Water Board from establishing more stringent permit limitations or site-specific objectives to protect aquatic life species as applicable. Page 347 of the final Staff Report provides the following example, “...*although the salinity permitting strategy focuses on protection of the salt-sensitive AGR and MUN beneficial uses, there may be areas in the Central Valley where the aquatic life beneficial use may be an additional consideration. Select species of fish (green and white sturgeon as well as striped bass) are sensitive to elevated salinity concentrations, especially during spawning (Klimley, et al., 2015). The spawning habitat of green sturgeon, which is listed as a threatened species on the federal Endangered Species Act list, is known to be contained within the Delta and the Sacramento River Basin (Klimley, et al., 2015). As such, discharges to these areas may be subject to salinity limitations lower than those established for AGR and MUN in order to protect applicable aquatic life beneficial uses.*”

PCFFA and IFR Comment No. 9: We are also concerned that that the 2nd path to compliance, the Alternative Salinity Permitting Process, does not include quantifiable standards and is vague and unenforceable. This path to compliance still relies on studies of major offsite actions, such as the Brine Pipeline and treatment facilities without guarantees that they will be implemented or function properly. This plan wastes time and limited resources that could be put to better use. Furthermore, these actions are full of uncertainties and assumptions. In reality, these large-scale proposed actions are unlikely to ever be funded or accepted by communities where discharges would occur.

RESPONSE: Permittees under the Alternative Salinity Permitting Approach would need to continue implementing efforts to control salinity through performance-based measures as determined by the Board. These include, but are not limited to, salinity management practices, pollution prevention, watershed, and/or salt reduction plans, monitoring and maintenance of existing discharge concentration or loading levels of salinity. These salinity control measures ensure salt discharges will be appropriately controlled and do not result in any significant increases. In addition, the Amendments do not alter, revise or supersede the salinity standards established through the Bay-Delta Water Quality Control Plan, site specific salinity standards or previously adopted salinity control programs.

The salinity issues in the Central Valley are significant and have already resulted in far-reaching impacts. The State Water Board and the Central Valley Water Board recognize that salt is impacting beneficial uses in the Central Valley and management of salinity in surface and ground waters is a major challenge. The CV-SALTS stakeholder process developed technical reports evaluating potential region-wide solutions, including a regulated brine line. The Prioritization and Optimization Study is needed to further develop these (and other) management concepts into feasibility studies. The State Water Board shares the commenter’s concern regarding the long-term success of the salinity management actions in that these issues are complex and there will be no easy solutions. The State Water

Board has concluded that the Amendments, developed from over a decade of stakeholder input, provide the best roadmap currently available for achieving long-term sustainability in the Central Valley.

PCFFA and IFR Comment No. 10: We are also concerned that the staff report does not disclose whether water districts that are involved in major settlements with the federal government to control their own discharges can be covered with this taxpayer subsidized plan and how including these discharges impacts water pollution and discharges.

RESPONSE: Any settlements between the water districts and the federal government are third party agreements to which the State Water Board and Central Valley Water Board are not parties. Those agreements have no impact on the Amendments and do not modify the requirements of the Amendments in any way.

PCFFA and IFR Comment No. 11: The drought exceptions to this plan are not appropriate. They severely weaken water quality standards and protections. The staff report has no analysis of the impacts of climate change or dwindling water supplies in relation to droughts and does not include predictions on how often these exceptions may be used or the cumulative impacts of lack of water for dilution flows and drought exceptions. Will the drought exceptions make surface waters unusable when dilution flows are unavailable? What does this mean for drinking water and delta fisheries? This is wholly inappropriate and inconsistent with the Porter-Cologne Act and state CEQA guidance on analyzing climate change impacts.

RESPONSE: See response to PCFFA and IFR Comment No. 1, 2, 3 and 8. Droughts can cause the concentration of salinity to increase in both influent and effluent, and climate change may exacerbate these conditions. The Staff Report (Central Valley Water Board, 2018b) discusses these impacts in more detail in Sections 2, 4 and 6. The Drought and Conservation Policy recognizes that it is in the best interest of the people of the state to allow some flexibility to dischargers to reuse and conserve water during periods of reduced water quantity. However, it does not allow interim limits for discharges to exceed the short-term secondary MCL for short term drinking water supply or the historical salt load. Nor does it supersede existing site-specific objectives like the salinity objectives for the Bay-Delta. It should be noted that water quality conditions actually improved in the San Joaquin River at Vernalis during the latter years of this decade's historic drought. While salinity concentrations in the San Joaquin River at Maze Road increased, the flow volume and salt load were significantly decreased, so salinity concentrations at Vernalis fell considerably and additional releases from New Melones to meet salinity objectives at Vernalis were not needed. Nonetheless, any future permitting actions based on provisions in the Drought or Conservation Policy will not change requirements for the Central Valley Water Board to conduct antidegradation analyses, evaluate downstream impacts and protect water quality.

9. SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT (REGIONAL SAN)

Comment letter was received by the State Water Resources Control Board on August 9, 2018, expressing support for the Basin Plan Amendments.

RESPONSE: Support noted.

REGIONAL SAN Comment No. 1: We recommend that the Regional Water Board work with the State Water Board and other federal and state agencies to identify and account for all sources of salinity and items that impact salinity, including seawater intrusion, water releases and diversions, natural sources, etc.

RESPONSE: A holistic approach is needed to address salinity and nitrate water quality impacts in the Central Valley and the Amendments reflect this. As recognized in the Executive Summary of the Staff Report (Central Valley Water Board, 2018b), implementation of the Salt Control Program will require significant actions and participation by federal, state, local agencies, districts, associations and other entities that use or transport Central Valley's waters. Studies conducted under the CV-SALTS initiative did identify primary sources and activities that impact salinity in the Central Valley. However, one of the main tasks for the Salt Control Program's Phase 1 P&O study will be further refinement of information to a local scale on the sources of salinity and actions that impact salinity in surface and ground waters. The Staff Report recognizes that entities that utilize and benefit from Central Valley waters should be active participants in the P&O Study and overall Salt Control Program.

REGIONAL SAN Comment No. 2: We encourage the Water Boards to work diligently to identify additional responsible parties that impact salinity and nitrates in the Central Valley, and to identify additional stakeholders. Other identified responsible parties should participate in funding, data evaluation, studies, and taking required actions to ensure program success.

RESPONSE: See response to Regional San Comment No. 1. An addition was made to the Executive Summary under the heading "Recommendations to Other Agencies" to clarify that an ongoing effort will be required to identify responsible parties and to determine their financial responsibility and needed level of participation. Language was also added to the proposed Basin Plan Language under the header "Salt and Nitrate Control Program" highlighting the need for broad stakeholder involvement.

REGIONAL SAN Comment No. 3: We also recommend an ongoing commitment that the Water Boards provide future periodic reviews and updates of the costs and funding responsibility as the program progresses. These reviews should include identification of newly identified responsible parties, and costs allocation or portions to dischargers already identified in the Basin Plan Amendment and related documents. State and federal funding sources should be investigated.

RESPONSE: Periodic reviews and financial updates are important. While the Amendments do not include the specific frequency requested by the commenter, additional language was added to the Basin Plan Language in the introduction to specify that the Salt and Nitrate Control Program will be reviewed in its entirety prior to initiation of Phase II of the Salt Control Program or a time period not to exceed 15 years from the effective date of the Amendments. Additional clarification was also provided in Section 8 Economic Analysis that the Central Valley Water Board will update applicable cost estimates during future Basin Plan Amendments concurrent with phased program reviews identified under the Salt Control Program.

10. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)

Comment letter was received by the State Water Resources Control Board on August 13, 2018

USEPA Comment No. 1: We appreciate the interchange with the Regional Board and would like to acknowledge the efforts of their staff working tirelessly on a complex and important amendment.

RESPONSE: Comment noted.

USEPA Comment No. 2: The Regional Board has stated that the 700/900 EC values, “shall not be considered a water quality objective” (Amendment Page 13). However, the amendment and supporting information have also made multiple statements that may not be entirely consistent with this stated intent. Although the Regional Board describes the values as an “interpretation of narrative water quality objectives,” a numeric translator nonetheless may still express or establish the desired condition or instream level of protection for waters. Regional board has described the 700/900 EC values as a “range in numeric objectives”, implying that the values are potentially used in the roles of objectives. In addition, the amendments state that these values are protective of their respective uses, which express an instream level of protection and therefore act like numeric objectives. The Regional Board also contends that the 700/900 EC values are not objectives, but still protective of instream uses and the basis of WQBELs. Alternatively, the Regional Board may have also described the 700/900 EC values as effluent limits, but that description would not resolve the inconsistent statements regarding the feasibility of use protection. Lastly, the Regional Board’s water quality standards (WQS) salinity variance program authorizes variances from a WQS, relieving an NPDES discharger from an obligation to comply with certain WQS. The Regional Board has authorized varying salinity objectives, but also states the 700/900 EC values are not objectives, which calls into question the need for a WQS variance.

Applying the 700/900 Electrical Conductivity (EC) values for the protection of AGR/MUN beneficial use in the role of objectives, despite statements that they are not, creates uncertainty for Clean Water Act (CWA) Water Quality Standards (WQS), permits and

variances. It needs to be clarified whether the 700/900 EC values are being established as water quality objectives under WQS authority, effluent limitations under NPDES authority, or adopted pursuant to some other state authority. The characterization of whether these values are objectives or not is important due to CWA Section 303(c) review, applicability across CWA programs, and WQS variances eligibility.

RESPONSE: The Salt and Nitrate Control Program basin plan amendments do not establish new or revised water quality standards for salinity. To protect the Municipal and Domestic Supply (MUN) beneficial use, the two Basin Plans for the Central Valley region previously established a water quality objective for salinity that is expressed as a range. The acceptable range, when salinity is measured by Specific Conductance, is between 900 uS/cm and 1,600 uS/cm. The Amendments do not change the existing range of acceptable values specified in the Basin Plans. To protect all other beneficial uses, including agricultural irrigation supply (AGR), the Central Valley Basin Plans rely on a narrative water quality objective to prevent excess salinity. That objective states that: "waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses." Except for a few site-specific cases, the Basin Plans do not specify default numeric EC values or TDS concentrations needed to meet this requirement. The Amendments make no changes to this existing Basin Plan language. The question of what constitutes excessive salinity that may adversely affect the AGR beneficial use varies widely depending on a large number of site-specific factors. Central Valley Water Board staff consider all of these factors in determining the appropriate numeric value to use in a reasonable potential analysis, and then to develop appropriate water quality-based effluent limits for salinity in NPDES permits if reasonable potential exists.

Because commercial crops exhibit a wide range of salinity tolerances, appropriate water quality-based effluent limits for salinity in NPDES permits also fall within an equally wide range of acceptable values. Therefore, the Central Valley Water Board concluded that it would be prudent to standardize the procedures and methods used to account for such differences when deriving salinity limits to protect the AGR beneficial use much as EPA has done by standardizing the species recalculation procedure used to make other site-specific criteria adjustments. Doing so would improve clarity, reduce uncertainty, promote consistency and increase efficiency in the permitting process. This is especially important given the extraordinary diversity of environmental conditions and crops grown in the Central Valley. The Prioritization and Optimization Study described in the Basin Plan amendment establishes an official and enforceable mechanism to implement this standardization strategy for those that choose to participate in the Salinity Control Program.

The Central Valley Water Board realized that, in some cases, there may be dischargers that do not wish to follow this alternative pathway and would prefer a "simpler" permitting approach. If these dischargers are willing to accept salinity-

based effluent limits that default to the lowest end of the acceptable range (e.g. 900 EC for MUN and 700 EC for AGR), without detailed consideration of other site-specific factors that may justify higher values, then the Central Valley Water Board can authorize NPDES permits using these values. Because these concentrations are extremely conservative, the Central Valley Water Board can reasonably conclude that beneficial uses will be protected. However, that does not imply that other higher values would not also protect beneficial uses. It indicates that the discharger is not willing to expend the time and effort required to make the complex technical demonstrations needed to justify a higher value for determining reasonable potential and calculating a water quality-based effluent limit from within the wide range of potentially acceptable values.

The process is similar to that used to approve a mixing zone in an NPDES permit. Until certain technical analyses are completed to demonstrate consistent and reliable mixing in the receiving water, most regulated discharges must meet water quality standards at the end-of-pipe. Over the years, a number of standardized tools (such as the CorMix model) have been developed to help make such demonstrations using methods that are both consistent and scientifically-sound. Even where significant instream dilution is available, dischargers may elect to forego the mixing zone demonstration and accept effluent limits that are more conservative than necessary to assure compliance with applicable water quality standards. Similarly, for sound business reasons, dischargers may choose to forego detailed salinity analyses designed to replace conservative assumptions with site-specific adjustments and elect to accept effluent limits that are more stringent than might otherwise be required to protect beneficial uses.

The fact that the Central Valley Water Board has concluded that the 700/900 EC values, used to implement the conservative permitting approach, are "sufficient" to protect waterbodies designed AGR and MUN respectively does not imply that these values are necessary to protect these beneficial uses. Nor does it imply that application of these values as effluent limits in the NPDES permits of dischargers who elect to opt-out of the watershed-wide implementation program "expresses the desired level of instream protection." The Basin Plan clearly states that, for MUN, instream uses are protected if salinity concentrations fall within a range of 900 - 1,600 uS/cm. And, for other beneficial uses, the narrative objective does not specify a numeric threshold value for salinity. The 700 EC level proposed for the conservative permitting approach was also derived from a range of acceptable values first proposed in a United Nations report more than 30 years ago. This value was intended to be a general guideline below which salinity of the irrigation water need not be evaluated for its potential to affect crop yields regardless of how the water was applied or the crops grown. Because the UN guideline includes a number of extremely conservative assumptions that do not necessarily reflect current cropping patterns or modern farming practices in California, it is inappropriate to conclude that the 700 EC value represents

anything other than the most conservative end of a range of potential values that may also be used as acceptable targets for instream water quality.

In accordance with the State Water Board's Listing Policy, the Regional Board will continue to conduct the 303(d) assessment using the same process and procedures used in the past. Where the Basin Plan specifies a site-specific numeric salinity objective, attainment will be evaluated against that standard. Where no site-specific numeric salinity objective has been established, the Central Valley Water Board will continue to assess attainment of MUN by comparing current water quality data to the range of acceptable salinity values (900 - 1,600 uS/cm) specified by the Secondary Maximum Contaminant Levels (SMCL) that were incorporated by reference into the Basin Plan in 1994.

USEPA Comment No. 3: We suggest clarifying “...to provide for in lieu or alternative compliance” under the provision describing permit limits for participants in the Prioritization and Optimization (P&O) Study (Amendment Language Page 17). The basin plan language is vague and does not establish whether effluent limits will be replaced with the P&O Study requirements in the permit, or the permittee will need to apply for a multi-discharger WQS variance.

RESPONSE: The water quality objectives for salinity, that were adopted to protect the MUN beneficial use, are expressed as a range from 900 to 1,600 uS/cm. While the Central Valley Water Board may not know the exact number within this range that is required to protect the beneficial use for any given waterbody, the Board understands that discharges with salinity higher than this upper end of the range are likely to impair beneficial uses unless there is assimilative capacity available. Previous precedential State Water Board orders require that water quality-based effluent limits must be set equal to the objective when there is no assimilative capacity available. If a discharger is unable to comply with a discharge limit set equal to highest possible value in the acceptable range, then that discharge cannot continue without a variance. Thus, discharging effluent with salinity greater than 700/900 EC may not require a variance but discharging more than 1,600 EC will when there is no available assimilative capacity. A variance may also be needed to address discharges to the relatively few surface waters where the Regional Board has established site-specific numeric water quality objectives for salinity in the Basin Plans.

For point source discharges to surface waters that have a site-specific numeric salinity objective and that exhibit reasonable potential, the water quality-based effluent limit will continue to be based on that previously approved objective. If the discharger is unable to comply with that objective, a water quality standards variance may be considered. For point sources discharges to surface waters designated MUN that have no site-specific numeric salinity objective and that exhibit reasonable potential, effluent limits can be developed based on the acceptable range of SMCL values described above. Those dischargers unable to

comply with the highest allowable EC threshold in the range of acceptable SMCL values may be eligible for a variance. Such a variance may be obtained by meeting the requirements of an US EPA-approved multi-discharger Salinity Variance Program or through an individual variance approved by the Central Valley Water Board, State Water Board, and US EPA.

For point source discharges that fall within the range of acceptable salinity values specified as SMCLs in the Basin Plan and thus do not exhibit reasonable potential, the NPDES permit may include a numeric effluent limit based on prior performance to ensure that no additional degradation occurs during the time that the P&O study is being conducted (i.e., a performance based limit). In addition, the permit will require these dischargers to actively support and participate in the P&O study. This approach is deemed "In Lieu" Compliance for the period that the P&O study is underway to determine more precise site-specific salinity thresholds, from within the range of acceptable values that should apply to each receiving water.

Because the P&O Study is designed to standardize the methods and procedures for deriving effluent limits within a range of acceptable values, the Central Valley Water Board has chosen to restrict how that range is applied while those methods and procedures are being developed. The primary purpose of the P&O study is to ensure that appropriate salinity-based effluent limits are derived using a consistent and transparent process. Developing such a process is an enormous undertaking that requires significant stakeholder commitment throughout the watershed in order to be successful. The Central Valley Water Board intends to use its permitting authority to encourage these high levels of participation. Dischargers that are not willing to engage in the P&O study, are deemed ineligible to access the full range of potentially acceptable salinity values. Instead, these point source dischargers that exhibit reasonable potential will receive permits with numeric water quality based effluent limits set equal to the most conservative value in the range of acceptable salinity concentrations. This will ensure adequate protection of water quality without needing to evaluate the sensitivity of crops grown, or likely to be grown, in the area affected by the discharge.

USEPA Comment No. 4: The case studies underlying the multi-discharger variance should be analyzed and updated if necessary to ensure that the conclusions are still valid. Regional Board's evaluation of necessary documentation when submitted by dischargers applying for the variance is not consistent with the variance requirements of 40 CFR section 131.14. Specifically, the justification for the variance still relies on case studies during a period in the past that may reflect different levels of social and economic impact than today. The Regional Board should make sure the case studies are still valid and provide updates with any new data if they have changed significantly.

RESPONSE: The current multi-discharger Variance Program (approved by US EPA in 2016) was primarily supported by a report entitled "Technical Evaluation of a Variance Policy and Interim Salinity Program for the Central Valley" (Larry Walker Associates, 2012). After several discussions, the Board understands that it

is US EPA's position that the findings in this report must be updated in order for US EPA to be able to approve the proposed Amendments as a multi-discharger variance.

The case studies in the report are still valid, since there have been no alternative treatment mechanisms that could replace the need for these facilities to develop microfiltration and/or reverse-osmosis treatment upgrades. However, there are differences between the proposed Amendments and the multi-discharger Variance Program that was approved in 2016. Specifically, the proposed Amendments would prompt most dischargers to pursue standards variances at 1,600 uS/cm, whereas the Technical Evaluation of a Variance Policy and Interim Salinity Program for the Central Valley analyzed economic conditions for a lower salinity threshold.

Although there is no evidence that the type of upgrade costs described in the 2012 technical evaluation have been reduced (they would instead likely be much higher due to inflation and current economic conditions), the Regional Board understands that it is US EPA's expectation that additional analysis is required. Given US EPA's comments, it is the Central Valley Water Board's intent to use the proposed Variance Policy and Drought and Conservation Policy not as a multi-discharger variance program itself, but rather as guidance for individual variances that would be submitted to US EPA for its approval in conjunction with the development of NPDES permits for permittees that may exceed the 1,600 uS/cm threshold.

11. VALLEY WATER MANAGEMENT COMPANY (VALLEY WATER)

Comment letter was received by the State Water Resources Control Board on August 13, 2018, expressing support for the Basin Plan Amendments.

RESPONSE: Support noted.

VALLEY WATER Comment No. 1: We request that the State Water Board encourage Regional Water Board to continue its work to create a streamlined approach to addressing groundwater basins that are not properly designated as an existing Municipal and Domestic Supply (MUN) use.

RESPONSE: Comment noted. Issues pertaining to the appropriate designation of the Municipal and Domestic Supply (MUN) beneficial use in groundwater basins are not within the scope of the Amendments.

VALLEY WATER Comment No. 2: We request that the State Water Board encourage Regional Water Board to incorporate boron into salinity control program as requested by Valley Water and other dischargers.

RESPONSE: The Central Valley Water Board has previously responded to this comment and the commenter did not explain why the Central Valley Water Board's response was inadequate. The response explained why the Central Valley Water Board did not incorporate boron into the Salt Control Program. Since comparable technical evaluations to those conducted for salt were not completed for boron as part of the CV-SALTS basin planning process, it would not be appropriate to presume that provisions in the Salt Control Program apply equally to boron.

VALLEY WATER Comment No. 3: We also encourage the State Water Board to address the current loopholes that exist with the adoption of Maximum Contaminant Levels (MCLs) for drinking water purposes that automatically transform into ambient water quality objectives for surface water and groundwater under current Basin Plan language that prospectively incorporates by reference such MCLs. The incorporation-by-reference method violates the requirements of CEQA and Water Code 13241 and 13242. Regional Water Board cannot defer its required analysis previously undertaken by another entity such as Division of Drinking Water (DDW).

RESPONSE: Comment noted. Issues pertaining to the incorporation-by-reference method are not in the scope of this project.

REFERENCES

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